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EXAMINER

ASHBURN, STEVEN L

ART UNIT PAPER NUMBER

3714

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/405,921

Applicant(s)

YOSELOFF ET AL. *cd*

Examiner

Steven Ashburn

Art Unit

3714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 19-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 19-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 27.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### ***DETAILED ACTION***

#### ***Claim Rejections - 35 USC § 112***

The rejection of claims 1 under 35 U.S.C. 112, second paragraph, is withdrawn.

#### ***Claim Rejections - 35 USC § 103***

Claims 1-17 and 19-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hedrick et al., U.S. Patent 6,135,884 (Oct. 24, 2000) in view of RTD USA, <www.rtdusa.com> (1998) (hereinafter "RTD") and Mardsen et al., *Development of a PC-Windows Based Universal Control System*, 5<sup>th</sup> Intl. Conf. on FACTORY 2000, 2-4 April, 1997, Conf. Pub. No. 435 (hereinafter "Mardsen").

*Hedrick* discloses a retrofittable wagering game apparatus employing a game controller comprised of general purpose computer components. *See fig. 6; col. 10:41-11:11*. The reference teaches that it is desirable for a gaming machine to be easily modified with new games or features and thereby maintain a player's desire to play a particular game. *See col. 2:61-3:5*. In addition, it would be beneficial to reduce the costliness and inconvenience of updating thematic displays on gaming machine glass. *See id.* Accordingly, *Hedrick* describes an improved apparatus and method for controlling the content of various necessary displays in a gaming machine for both primary and secondary game events, as well as other new applications. *See id.*

In regards to claims 1, 19, 22, 27, 28, 31, 32, 33, 35: *Hedrick* teaches the following features:

- a) A computerized game controller operable to control a computerized wagering game. *See fig. 5-7*.
- b) A video display device and/or slot display device providing a visual display representation of a signal provide by a computerized game controller such that the video display devices displays at least one image selected from the group of (i) computerized wagering game status

Art Unit: 3714

- information and (ii) symbol elements that change with the play of the wagering game. *See fig. 5-7, 12(a), 13(a)(b).*
- c) A communications port communicatively couple to the computerized game controller. *See fig. 5-7.*
  - d) An interface assembly comprising on or more user interface devices. *See id.*
  - e) An input/output (I/O) interface adapter configured to communicatively couple the interface assembly to the communications port and convert at least some signals between the interface formats supported by the interface assembly and the universal controller. *See id.*
  - f) A communication port connected to gaming peripherals in communication with the computerized gaming controller. *See id.*
  - g) A computerized game controller monitoring through a communication port at least one of coins in/out, currency in/out, debit/credit and cashless events. *See id.*

As listed above, *Hedrick* describes a gaming device having embedded controller comprised of general purpose computer. *See, e.g., fig. 6.* *Hedrick* teaches or suggests all the features of the claims except an interface assembly communicatively coupled to the controller's communication port wherein the interface assembly provides plurality of interface formats such that the controller can control systems via the I/O interfaces and includes a connector for connecting to peripherals. Regardless, this feature would have been obvious at the time of the invention when the prior art is taken as a whole by one of ordinary skill in the art.

Commonly, PC-based controllers are embedded in commercial, industrial and military systems. To control such systems, embedded controllers require means to interface with a variety of external devices. In some applications, a PC's standard interfaces are sufficient. However, in most applications PC-based controllers require an additional I/O means to allow them to interface with various types of devices such as switches, buttons, motors, sensors, lights, relays, etc. Moreover, because external devices

Art Unit: 3714

produce and receive data in different formats, embedded controllers typically include means to condition data to a format employed by a particular device. For example, digital I/O devices commonly include means to buffer, latch or invert a digital signal. Likewise, analog I/O devices commonly include means to scale analog I/O signal within the range used by an external device. A wide variety of commercial-off-the-shelf (COTS) embedded controllers were available at the time of the invention.

*RTD* describes a family of commercial-off-the-shelf components for embedded control systems. The system includes PC-based controllers, I/O interfaces and signal conditioning modules based on the PC/104 standard. *See p. 3.* The controller modules include various PC-type communication ports including serial, Universal Serial Bus, parallel, and ps/2. *See pp. 6-10.* The controller modules are designed to link with a variety of interface assembly modulus. These modules provide functions including for signal conditioning, analog I/O and digital I/O. *See pp. 2, 3, 17-24, 47.* One of ordinary skill in the art of gaming devices at the time of the invention would possess knowledge of these and similar commercially available systems performing embedded control, data acquisition, and signal conditioning.

In particular regards to the claims, *RTD* teaches an interface assembly communicatively coupled to the controller's communication port wherein the interface assembly provides plurality of interface formats such that the controller can control systems via the I/O interface and includes a connector capable of being connected to peripherals. *See pp. 2, 17-24.* Hence, the claimed features not taught by *Hedrick* would be within the knowledge of an artisan. However, mere knowledge of these systems does not necessarily suggest employing them in a gaming device. Regardless, the suggestion to employ a PC-based embedded controller in a gaming device was within the ordinary knowledge of an artisan at the time of the invention.

The benefits of modular and reusable controllers are well recognized throughout commercial, industrial, and military applications. An gaming artisan would posses knowledge that using a PC-based

Art Unit: 3714

embedded controller would benefit a gaming system by providing an adaptable system that would reduce the time and cost required to retrofit legacy systems as well as the development of new systems. For example, *Mardsen* describes the development of a PC-based, universal control system for industrial control. In particular, the reference teaches that taking advantage of the controller's inherent adaptability which allows one controller to be used for many tasks with few changes to the hardware. *See p. 1*. As a result, the use of a "universal controller" may be used as a retrofit of existing systems or as part of a completely new system. *See p. 2*. Because of the variety of applications and hardware, the user only need select the modules required for a specific application. *See id.* *Mardsen* suggests that a universal controller would benefit a wide range of commercial applications and is not merely limited to industrial control. *See p. 3*. Thus, *Mardsen* demonstrates that it was generally known at the time of the invention to employ "universal", pc-based embedded controllers and thereby reduce the time and cost of to simplify the retrofitting and development of systems.

In view of *RTD* and *Mardsen*, it would have been obvious to one of ordinary skill in the art of gaming at the time of the invention to modify the controller described in *Hedrick*, wherein an embedded, pc-based controller controls a gaming device, to employ an interface assembly communicatively coupled to the controller's communication port wherein the interface assembly provides plurality of interface formats such that the controller can control systems via the I/O interface and including a connector capable of being connected to peripherals. As suggested by the *Mardsen*, the modification would provide a PC-based system for performing embedded control, data acquisition, and signal conditioning and thereby reduce the time and cost of retrofitting and development of systems.

In regards to claim 2: *Hedrick* additionally teaches having the game controller be a IBM PC-compatible computer system. *See fig. 6(621)*.

Art Unit: 3714

In regards to claims 3 and 12: *RTD* additionally teaches an I/O interface assembly operatively connected to a PC's parallel port (ISA) and converting signals from one voltage level to another, inverting signals, multiplexing or decoding signals and converting signals between formats. *See pp. 2, 3, 17-24 and 47.*

In regards to claim 4: *Hedrick* additionally teaches a gaming device having user interfaces including buttons and a touch-screen. *See fig. 5-7.* Additionally, it describes a slot machine configuration. *See fig. 12-13(a)* However, it does not describe user interface including slot-machine arms or joysticks. Regardless, it is notoriously well known in gaming devices provide user interfaces including buttons, slot machine arms, touch screens, and joysticks. Consequently, it would have been obvious to an artisan at the time of the invention to modify *Hedrick* to add the features of slot machine arms and joysticks to provide users with interface devices appropriate for the game configuration.

Furthermore, it is implicit that the controller performs functions necessary to convert signals between formats supported by various interface assemblies including encoding signals, converting signals from one voltage level to another, inverting signals, multiplexing or decoding signals. As seen in figures 5 and 6, the controller exchanges data between a data bus (647) a variety of formats including digital (522, 633), RF (615), NTSC (615), serial (653), parallel (657), audio (659), PCMCIA (637), IDE (645). The above functions are implicitly required to execute the conversion between formats. Notably, *RTD* provides I/O modules that perform these functions. *See pp. 17-24.*

In regards to claims 5 and 6: *Hedrick* additionally teaches a credit management device including coin acceptors, coin recognition systems, currency acceptors, currency recognition systems, credit card readers, smart card readers and security device. *See fig. 5; col. 6:18-35, 7:6-20; 9:1-20.*

In regards to claims 7 and 8: *Hedrick* additionally teaches security devices including tilt switches and device integrity switches. *See col. 12:35-58; 18:30-44*. However, it does not describe spurious electrical discharge detectors. Regardless, it is well known in the art to incorporate detectors into gaming machines to protect system integrity caused by, for example, power failures or surges. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify *Hendrick*, to add the feature of a spurious electrical signal detector to protect gaming system's integrity due to power failures or surges.

In regards to claim 9, 29 and 34: The combination of *Hedrick* with *RTD* and *Mardsen* is described above. *See supra*. In regards to claimed method reconfiguring a computerized wagering game, *Hedrick* describes a reconfigurable wagering game designed to be reduce the cost and effort required to provide new features to maintain or increase a players interest. *See col. 2:61-3:5*. *Mardsen* describes a universal embedded controller adaptable to a wide variety of applications including retrofitting existing systems to reduce to the cost and effort of development. *See pp. 1-2*. Furthermore, retrofitting with a universal controller overcomes the inflexible nature of a legacy controller and the redesign costs limiting to its original, special purpose. *See p. 1*. *RTD* describes a variety of controllers, data acquisition modules, signal conditioning modules and harnesses for interfacing a PC-based, embedded controller in commercial and industrial systems. As a whole, the prior art suggests retrofitting a gaming device with a universal, pc-based, embedded controller having data acquisition modules, signal conditioning modules and harnesses allowing flexible control over a variety of systems and requiring few changes to the system hardware to support new tasks. However it does not describe the particular steps of performing the retrofit. Regardless, these steps are within the ordinary skill of an artisan and would have been obvious at the time of the invention.



As stated above, *Marden* suggests retrofitting an universal controller as a replacement to an existing, special-purpose controller. *See p. 1*. The “retrofit” implicitly contains fundamental steps including (i) removing the original special-purpose processor used to control the original system while leaving the legacy components including peripherals, sensors, motors, interfaces and harnesses; (ii) inserting the new, universal controller; (iii) interfacing the universal controller with the legacy components; and (iii) performing validation and verification of the retrofit to ensure the system works as designed including verifying of communication between the processor and the components through the interfaces and harnesses.

Consequently, in the method of configuring a gaming device suggested by the combination of *Hedrick* with *RTD* and *Mardsen*, wherein a universal controller is retrofit into a gaming device, it would have been obvious to an artisan at the time of the invention to perform the steps of:

- a) Removing an original special-purpose computerized game controller used to control a computerized wagering game from the apparatus wherein the original computerized game controller was designed to and capable of working exclusively with a particular game apparatus and at least some interface devices on the apparatus, the peripherals having been connected to the original computerized game controller through a wiring harness that is not removed when the original processor is removed. It is clearly within the ordinary skill of an artisan to reuse legacy components including preexisting cables, harnesses and other interfaces to reduce to level of rework involved in retrofitting a legacy system. Towards that end, *RTD* offers a variety of interface cables, terminal blocks and other adapters. *See pp. 47-49*.
- b) Inserting a universal computerized game controller operable to control a video wagering or slot game that can be played on the gaming apparatus and an input/output interface the operatively couples the universal controller to user interface devices of the game apparatus wherein the I/O interface adapter is configured to communicatively interface to the universals

controller's communication ports (i.e. serial, parallel, network, digital acquisition, signal conditioning) and thereby convert signals between interface formats or perform buffering and latching of signals.

c) Sending signals from the computerized game controller through the input/output interface and harness communicate between the computerized game controller and the user interface devices wherein some communication is performed though a wiring harness that is not removed.

As taught by *Marden*, retrofitting existing systems by replacing a special purposed controller with a universal embedded controller adaptable to a wide variety of applications allows the system flexibly perform different tasks with few changes to hardware and thereby reduce the cost and effort of modifying a system.

In regards to claims 10 and 35: *Hedrick* additionally teaches the step of, after sending signals, the video gaming apparatus enables a video display associated with the game apparatus to provide a visual representation of a signal provided by the computerized game controller such that the video display device displays at least on visual image selected from the groups of (a) computerized game status information (e.g. credits, time, score) and (b) symbol elements that change with the play of the wagering game. *See fig. 12-13(a).*

In regards to claim 11: *Hedrick* additionally teaches having the game controller be a IBM PC-compatible computer system. *See fig. 6(621).*

In regards to claim 13: *Hedrick* additionally teaches security devices including tilt switches, device integrity switches and spurious electrical discharge detectors. *See col. 12:35-58; 18:30-44.* It is

Art Unit: 3714

implicit that a detection of a spurious electrical signal that halt game process execution will be detected and cause a tilt condition.

In regards to claims 14, 15 and 23: *Hedrick* additionally teaches a credit management device including coin acceptors, coin recognition systems, currency acceptors, currency recognition systems, credit card readers, and smart card readers. *See fig. 5; col. 6:18-35, 7:6-20; 9:1-20.*

In regards to claims 16 and 17: *Hedrick* additionally teaches security devices including tilt switches, device integrity switches and spurious electrical discharge detectors. *See col. 12:35-58; 18:30-44.* It is implicit that a detection of a spurious electrical signal that halt game process execution will be detected and cause a tilt condition.

In regards to claims 20 and 21: *RTD* additionally teaches an embedded mother board.

In regards to claim 23 and 31: *Hedrick* additionally teaches peripherals including coin acceptors, coin recognition systems, currency acceptors, currency recognition systems, credit card readers, smart card readers and security device. *See fig. 5; col. 6:18-35, 7:6-20; 9:1-20.*

In regards to claims 24 and 25: *Hedrick* additionally teaches a port connected to a computer to execute and control for peripherals. *See fig. 5-7.*

In regards to claim 26: *Hendrick* additionally teaches a video gaming apparatus. *See fig. 12-13(a).*

Art Unit: 3714

In regards to claim 30: *Hendrick* additionally teaches a video gaming apparatus coin acceptors, coin recognition systems, currency acceptors, currency recognition systems, credit card readers, smart card readers, security device game operating code and a store of images. *See fig. 5-7, 12-13(a).*

In regards to claims 36 and 37: *RTD* additionally teaches I/O interfaces having digital logic to convert signals between protocols.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-17 and 19-37 have been considered but are moot in view of the new ground(s) of rejection necessitated by the applicant's amendment of the claims. Responses to the applicant's general arguments are provided below.

The applicant argues that the claims distinguishes over the prior art of record because the references do not suggest the claimed invention. In particular, the applicant asserts that claimed invention is limited to gaming and, as a result, the rejection incorporating *Mardsen* is inapplicable because the reference is nonanalogous art. The examiner respectfully disagrees.

In response to applicant's argument that *Mardsen* is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. *See In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the applicant identifies the problem of providing a controller that can be installed in a broad range of devices without substantial modification to the controller. *See specification, p. 4, lines 27-29.* In comparison, *Mardsen* describes a PC-based, universal control system for industrial control. The reference teaches that taking advantage of the controller's inherent adaptability which allows one controller to be

Art Unit: 3714

used for many tasks with few changes to the hardware. *See p. 1.* As a result, the use of a “universal controller” may be used as a retrofit of existing systems or as part of a completely new system. *See p. 2.* Because of the variety of applications and hardware, the uses only need select the modules required for a specific application. *See id.* *Mardsen* suggests that a universal controller would benefit a wide range of commercial applications and is not merely limited to industrial control. *See p. 3.* Thus, *Mardsen* is clearly pertinent to the particular problem with which the applicant is concerned. Consequently, *Mardsen* is analogous art.

In response to applicant's arguments against the *Mardsen* individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. *See In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The standard of patentability is what the prior art, taken as a whole, suggests to an artisan at the time of the invention. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097, 231 USPQ 375, 379 (Fed. Cir. 1986). The question is not only what the references expressly teach, but what they would collectively suggest to one of ordinary skill in the art. *In re Simon*, 461 F.2d 1387, 1390, 174 USPQ 114, 116 (CCPA 1972). In this case, *Hedrick* discloses a retrofittable wagering game apparatus employing a game controller comprised of general purpose computer components. *See fig. 6; col. 10:41-11:11.* The reference teaches that it is desirable for a gaming machine to be easily modified with new games or features and thereby maintain a player's desire to play a particular game. *See col. 2:61-3:5.* In addition, it would be beneficial to reduce the costliness and inconvenience of updating thematic displays on gaming machine glass. *See id.*

*RTD* describes a family of commercial-off-the-shelf components for embedded control systems. The system includes PC-based controllers, I/O interfaces and signal conditioning modules based on the PC/104 standard. *See p. 3.* The controller modules include various PC-type communication ports

Art Unit: 3714

including serial, Universal Serial Bus, parallel, and ps/2. *See pp. 6-10.* The controller modules are designed to link with a variety of interface assembly modules which provide functions including signal conditioning, analog I/O and digital I/O. *See pp. 2, 3, 17-24, 47.*

*Mardsen* describes a PC-based, universal control system for industrial control. In particular, the reference teaches that taking advantage of a PC-based controller's inherent adaptability that allows one controller to be used for many tasks with few changes to the hardware. *See p. 1.* As a result, the use of a "universal controller" may be used to retrofit of existing systems or as part of a completely new system. *See p. 2.* Because of the variety of applications and hardware, the designers only need select the modules required for a specific application. *See id.* *Mardsen* suggests that a universal controller would benefit a wide range of commercial applications and is not merely limited to industrial control. *See p. 3.*

A gaming artisan would possess knowledge of commercially available, "universal" embedded controllers and interface assemblies as described in *RTD*. Additionally, a gaming artisan would hold knowledge of the applications and benefits of "universal" embedded controllers as exemplified in *Mardsen*. Thus, when the prior art is taken as whole by an artisan at a time prior to the invention, it collectively suggests a gaming device employing a PC-based embedded controller having interface modules for performing signal conditioning and signal I/O for the system's peripheral components.

The examiner notes the applicant's arguments that the claimed invention is limited solely to gaming devices and that the claimed invention distinguishes over the prior art because "universal" controllers were not employed in the gaming industry at the time of the invention. *See Amendment dated July, 7, 2003 (paper no. 27) pp. 15-18.* The arguments are well taken, however the examiner respectfully disagrees. It has been held that the importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry." *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718, 21 USPQ2d 1053, 1057 (Fed. Cir. 1991). The examiner must ascertain what would have been

Art Unit: 3714

obvious to one of ordinary skill in the art at the time the invention was made, and not to the inventor, a judge, a layman, those skilled in remote arts, or to geniuses in the art at hand. Environmental Designs, Ltd. v. Union Oil Co., 713 F.2d 693, 218 USPQ 865 (Fed. Cir. 1983), cert. denied, 464 U.S. 1043 (1984). In this case, the examiner maintains that the claimed features, would have been within the ordinary knowledge of an artisan. To support this assertion, *RTD* illustrates the availability of commercial-off-the-shelf embedded controllers and I/O interfaces. Furthermore, *Mardsen* demonstrates that the use and benefits of embedded "universal" controllers is known. Still furthermore, other references cited, but not relied on, have been placed on the record that illustrate the widespread use of generic, modular controllers and interface assemblies.

Consequently, for all the reasons given above, the examiner finds the applicant's argument's unpersuasive.

***Prior Art, Not Relied On***

The following prior art of record is not relied upon but is considered pertinent to applicant's disclosure:

- a. U.S. Patent 5,400,246 to Wilson et al. discloses an interface assembly allowing a PC to interface with a plurality of peripheral devices.
- b. U.S. Patent 5,688,174 to Kennedy discloses a gaming device having a PC-controller receiving signals from peripheral devices through an interface assembly.
- c. U.S. Patent 6,117,010 to Canterbury et al. discloses a game controller linked to a I/O controller allowing control of peripheral game devices.
- d. U.S. Patent 6,222,448 to Beck et al. discloses a PC-controller receiving signals from peripheral devices through an interface assembly.

Art Unit: 3714

- e. U.S. Patent 5,508,689 to Rado et al. discloses a control system using generic control modules and interface modules.
- f. U.S. Patent 6,505,087 to Lucas et al. discloses a control system using modular, interchangeable components.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Ashburn whose telephone number is 703 305 3543. The examiner can normally be reached on Monday thru Friday, 8:00 AM to 4:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Hughes can be reached on 703-308-1806. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9302 for regular communications and 703 872 9303 for After Final communications.




Art Unit: 3714

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 1078.

s.a.

September 26, 2003



MARK SAGER  
PRIMARY EXAMINER